

FIGURE 1

10 20 30 40 50 60
 ACCAGCGCAC TTCGGCAGCG GCAGCACCTC GGCAGCGTCA GTGAAAATGC CAAGCAAGAA
 70 80 90 100 110 120
 AAGCGGCCCG CAACCCCATA AGAGGTGGGT GTTCACCCCTT AATAATCCTT CCGAGGAGGA
 130 140 150 160 170 180
 GAAAAAACAAA ATACGGGAGC TTCCAATCTC CCTTTTGAT TATTTGTTT GTGGCGAGGA
 190 200 210 220 230 240
 AGGTTTGGAA GAGGGTAGAA CTCCCTCACCT CCAGGGGTTT GCGAATTTCG CTAAGAAGCA
 250 260 270 280 290 300
 GACTTTAAC AAGGTGAAGT GGTATTTGG TGCCCGCTGC CACATCGAGA AAGCGAAAGG
 310 320 330 340 350 360
 AACCGACCAG CAGAATAAAAG AATACTGCAG TAAAGAAGGC CACATACTTA TCGAGTGTGG
 370 380 390 400 410 420
 AGCTCCGCAG AACCAAGGGGA AGCCGAGCGA CCTGTCTACT GCTGTGACTA CCCTTTGGA
 430 440 450 460 470 480
 GACGGGGTCT TTGGTGACTG TAGCCGAGCA GTTTCCTGTA ACGTATGTGA GAAATTTCCG
 490 500 510 520 530 540
 CGGGCTGGCT GAACTTTGA AAGTGAGCCG GAAGATGCAG CAGCGTGATT GGAAGACAGC
 550 560 570 580 590 600
 TGTACACGTC ATAGTGGGCC CGCCCGGTTG TGGGAAGAGC CAGTGGGCCG GTAATTTGC
 610 620 630 640 650 660
 TGAGCCTAGG GACACCTACT GGAAGCCTAG TAGAAATAAG TGGTGGGATG GATATCATGG
 670 680 690 700 710 720
 AGAAGAAGTT GTTGTGTTGG ATGATTTTA TGGCTGGTTA CCTTGGGATG ATCTACTGAG
 730 740 750 760 770 780
 ACTGTGTGAC CGGTATCCAT TGACTGTAGA GACTAAAGGG GGTACTGTTT CTTTTTGCG
 790 800 810 820 830 840
 CCGCAGTATT TTGATTACCA GCAATCAGGC CCCCCAGGAA TGGTACTCCT CAACTGCTGT
 850 860 870 880 890 900
 CCCAGCTGTA GAAGCTCTCT ATCGGAGGAT TACTACTTGT CAATTTGGA AGACTGCTGG

FIGURE 2

910 920 930 940 950 960
 AGAACAAATCC ACGGAGGTAC CCGAAGGCCG ATTTGAAGCA GTGGACCCAC CCTGTGCCCT
 970 980 990 1000 1010 1020
 TTTCCCATAT AAAATAAATT ACTGAGTCTT TTTTGTATC ACATCGTAAT GGTTTTATT
 1030 1040 1050 1060 1070 1080
 TTTATTCAATT TAGAGGGTCT TTCAGGATAA ATTCTCTGAA TTGTACATAA ATAGTCACC
 1090 1100 1110 1120 1130 1140
 TTACACACATA ATTTGGGCT GTGGTTGCAT TTTGGAGGCC ATAGCCCAGG CCTGTGTGCT
 1150 1160 1170 1180 1190 1200
 CGACATTGGT GTGGGTATTT AAATGGAGCC ACAGCTGGTT TCTTTTATTAA TTGGCTGGA
 1210 1220 1230 1240 1250 1260
 ACCAACATCAAT TGTTTGGTCT AGCTCTGGTT TGGGGGTGAA GTACCTGGAG TGGTAGGTAA
 1270 1280 1290 1300 1310 1320
 AGGGCTGCCT TATGGTGTGG CGGGAGGAGT AGTTAATATA GGGGTCATAG GCCAAGTTGG
 1330 1340 1350 1360 1370 1380
 TGGAGGGGGT TACAAAGTTG GCATCCAAGA TAACAACAGT GGACCCAACA CCTCTTTGAT
 1390 1400 1410 1420 1430 1440
 TAGAGGTGAT GGGGTCTCTG GGGTAAAATT CATATTTAGC CTTTCTAATA CGGTAGTATT
 1450 1460 1470 1480 1490 1500
 GGAAAGGTAG GGGTAGGGGG TTGGTGCCCC CTGAGGGGGG GAGGAACCTGG CCGATGTTGA
 1510 1520 1530 1540 1550 1560
 ATCTCAGCTC GTTAACATTC CAAGATGGCT GCGAGTGTCC TCCTCTTATG GTGAGTACAA
 1570 1580 1590 1600 1610 1620
 ATTCTCTAGA AAGGCAGGAA TTGAAGATAC CCGTCTTCG GCGCCATCTG TAACGGTTTC
 1630 1640 1650 1660 1670 1680
 TGAAGGCAGGG GTGTACCAAA TATGGTCTTC TCCGGAGGAT GTTTCCAAGA TGGCTGCAGG
 1690 1700 1710 1720 1730 1740
 GGCAGGGTCCG TCTTCTGCAGG TAACGGCTCC TTGGCCACGT CATCCTATAA AAGTGAAGA
 1750 1760 1770 1780 1790 1800
 AGTGCAGCTGC TGTAGTATT

FIGURE 2 (continuation)

Leu Ala Ser Arg Cys Arg Cys Cys Arg Pro Leu Thr Leu Ser Phe Ala Leu Cys
 Trp Arg Val Glu Ala Ala Ala Ala Gly Arg Cys Arg *** His Phe His Trp Ala
 Gly Ala Cys Lys Pro Leu Pro Leu Val Glu Ala Ala Asp Thr Phe Ile Gly Leu
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 3' TGG TCG CGT GAA GCC GTC GCC GTC GTG GAG CCG TCG CAG TCA CTT TTA CGG TTC
 9 18 27 36 45 54
 5' ACC AGC GCA CTT CGG CAG CGG CAG CAC CTC GGC AGC GTC AGT GAA AAT GCC AAG
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Thr Ser Ala Leu Arg Gln Arg Gln His Leu Gly Ser Val Ser Glu Asn Ala Lys
 Pro Ala His Phe Gly Ser Gly Ser Thr Ser Ala Ala Ser Val Lys Met Pro Ser
 Gln Arg Thr Ser Ala Ala Ala Pro Arg Gln Arg *** Lys Cys Gln Ala
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Ser Phe Arg Gly Ala Val Gly Tyr Ser Thr Pro Thr *** Gly *** Tyr Asp Lys
 Leu Phe Ala Ala Arg Leu Gly Met Leu Pro Pro His Glu Gly Lys Ile Ile Arg
 Leu Phe Leu Pro Gly Cys Gly Trp Leu Leu His Thr Asn Val Arg Leu Leu Gly
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 GTT CTT TTC GCC GGG CGT TGG GGT ATT CTC CAC CCA CAA GTG GGA ATT ATT AGG
 63 72 81 90 99 108
 CAA GAA AAG CGG CCC GCA ACC CCA TAA GAG GTG GGT GTT CAC CCT TAA TAA TCC
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Gln Glu Lys Arg Pro Ala Thr Pro *** Glu Val Gly Val His Pro *** *** Ser
 Lys Lys Ser Gly Pro Gln Pro His Lys Arg Trp Val Phe Thr Leu Asn Asn Pro
 Arg Lys Ala Ala Arg Asn Pro Ile Arg Gly Gly Cys Ser Pro Leu Ile Ile Leu
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Arg Pro Pro Ser Phe Cys Phe Val Pro Ala Glu Leu Arg Gly Lys Gln Asn Asn
 Gly Leu Leu Leu Phe Val Phe Tyr Pro Leu Lys Trp Asp Gly Lys Lys Ile Ile
 Glu Ser Ser Phe Phe Leu Ile Arg Ser Ser Gly Ile Glu Arg Lys Ser ***
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 AAG GCT CCT CTT TTT GTT TTA TGC CCT CGA AGG TTA GAG GGA AAA ACT AAT
 117 126 135 144 153 162
 TTC CGA GGA GAA AAA CAA AAT ACG GGA GCT TCC AAT CTC CCT TTT TGA TTA
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Phe Arg Gly Gly Glu Lys Gln Asn Thr Gly Ala Ser Asn Leu Pro Phe *** Leu
 Ser Glu Glu Glu Lys Asn Lys Ile Arg Glu Leu Pro Ile Ser Leu Phe Asp Tyr
 Pro Arg Arg Arg Lys Thr Lys Tyr Gly Ser Phe Gln Ser Pro Phe Leu Ile Ile
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Gln Lys His Arg Pro Leu Asn Pro Leu Pro Tyr Phe Glu Glu Gly Pro Thr
 Lys Asn Thr Ala Leu Phe Thr Gln Phe Leu Thr Ser Ser Arg Val Glu Leu Pro
 Lys Thr Gln Pro Ser Ser Pro Lys Ser Ser Pro Leu Val Gly *** Arg Trp Pro
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 AAA ACA AAC ACC GCT CCT TCC AAA CCT TCT CCC ATC TTG AGG AGT GGA GGT CCC
 171 180 189 198 207 216
 TTT TGT TTG TGG CGA GGA AGG TTT GGA AGA GGG TAG AAC TCC TCA CCT CCA CGG
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Phe Cys Leu Trp Arg Gly Arg Phe Gly Arg Gly *** Asn Ser Ser Pro Pro Gly
 Phe Val Cys Gly Glu Glu Gly Leu Glu Glu Gly Arg Thr Pro His Leu Gln Gly
 Leu Phe Val Ala Arg Lys Val Trp Lys Arg Val Glu Leu Leu Thr Ser Arg Gly
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Gln Ser Asn Gln *** Ser Ala Ser Lys *** Cys Pro Ser Thr Thr Asn Gln His
 Lys Arg Ile Lys Ser Leu Leu Ser Lys Val Leu His Leu Pro Ile Lys Thr
 Asn Ala Phe Lys Ala Leu Phe Cys Val Lys Leu Leu Thr Phe His Tyr Lys Pro
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 CAA ACG CTT AAA ACG ATT CTT CGT CTG AAA ATT GTT CCA CTT CAC CAT AAA ACC
 225 234 243 252 261 270
 GTT TGC GAA TTT TGC TAA GAA GCA GAC TTT TAA CAA GGT GAA GTG GTA TTT TGG
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Val Cys Glu Phe Cys *** Glu Ala Asp Phe *** Gln Gly Glu Val Val Phe Trp
 . Phe Ala Asn Phe Ala Lys Lys Gln Thr Phe Asn Lys Val Lys Trp Tyr Phe Gly
 Leu Arg Ile Leu Leu Arg Ser Arg Leu Leu Thr Arg *** Ser Gly Ile Leu Val

FIGURE 3

Gly Ser Gly Cys Arg Ser Leu Ser Leu Phe Arg Gly Ala Ser Tyr Leu Ile Ser
 Gly Ala Ala Val Asp Leu Phe Arg Phe Ser Gly Val Leu Leu Ile Phe Phe Val
 Ala Arg Gln Trp Met Ser Phe Ala Phe Pro Val Ser Trp Cys Phe Leu Ser Tyr

 ACG GGC GAC GGT GTA GCT CTT TCG CTT TCC TTG GCT GGT CGT CTT ATT TCT TAT
 279 288 297 306 315 324
 TGC CCG CTG CCA CAT CGA GAA AGC GAA AGG AAC CGA CCA GCA GAA TAA AGA ATA

 Cys Pro Leu Pro His Arg Glu Ser Glu Arg Asn Arg Pro Ala Glu *** Arg Ile
 Ala Arg Cys His Ile Glu Lys Ala Lys Gly Thr Asp Gln Gln Asn Lys Glu Tyr
 Pro Ala Ala Thr Ser Arg Lys Arg Lys Glu Pro Thr Ser Arg Ile Lys Asn Thr

 Cys Tyr Leu Leu Gly Cys Val *** Arg Thr His Leu Glu Ala Ser Gly Pro Ser
 Ala Thr Phe Phe Ala Val Tyr Lys Asp Leu Thr Ser Ser Arg Pro Val Leu Pro
 Gln Leu Leu Ser Pro Trp Met Ser Ile Ser His Pro Ala Gly Arg Phe Trp Pro

 GAC GTC ATT TCT TCC GGT GTA TGA ATA GCT CAC ACC TCG AGG CGC CTT GGT CCC
 333 342 351 360 369 378
 CTG CAG TAA AGA AGG CCA CAT ACT TAT CGA GTG TGG AGC TCC GCG GAA CCA GGG

 Leu Gln *** Arg Arg Pro His Thr Tyr Arg Val Trp Ser Ser Ala Glu Pro Gly
 Cys Ser Lys Glu Gly His Ile Leu Ile Glu Cys Gly Ala Pro Arg Asn Gln Gly
 Ala Val Lys Lys Ala Thr Tyr Leu Ser Ser Val Glu Leu Arg Gly Thr Arg Gly

 Ala Cys Arg Gly Thr *** Gln Gln Ser Tyr Gly Lys Pro Ser Pro Thr Lys Pro
 Leu Ala Ala Val Gln Arg Ser Ser His Thr Gly Lys Gln Leu Arg Pro Arg Gln
 Phe Arg Leu Ser Arg Asp Val Ala Thr Leu Val Arg Lys Ser Val Pro Asp Lys

 CTT CGC GTC GCT GGA CAG ATG ACG ACA CTC ATG GGA AAA CCT CTG CCC CAG AAA
 387 396 405 414 423 432
 GAA GCG CAG CGA CCT GTC TAC TGC TGT GAG TAC CCT TTT GGA GAC GGG GTC TTT

 Glu Ala Gln Arg Pro Val Tyr Cys Cys Glu Tyr Pro Phe Gly Asp Gly Val Phe
 Lys Arg Ser Asp Leu Ser Thr Ala Val Ser Thr Leu Leu Glu Thr Gly Ser Leu
 Ser Ala Ala Thr Cys Leu Leu Leu *** Val Pro Phe Trp Arg Arg Gly Leu Trp

 Ser Gln Leu Arg Ala Thr Glu Gln Leu Thr His Ser Phe Asn Gly Arg Ala Pro
 His Ser Tyr Gly Leu Leu Lys Arg Tyr Arg Ile His Ser Ile Glu Ala Pro Gln
 Thr Val Thr Ala Ser Cys Asn Gly Thr Val Tyr Thr Leu Phe Lys Arg Pro Ser

 CCA CTG ACA TCG GCT CGT CAA AGG ACA TTG CAT ACA CTC TTT AAA GGC GCC CGA
 441 450 459 468 477 486
 GGT GAC TGT AGC CGA GCA GTT TCC TGT AAC GTA TGT GAG AAA TTT CCG CGG GCT

 Gly Asp Cys Ser Arg Ala Val Ser Cys Asn Val Cys Glu Lys Phe Pro Arg Ala
 Val Thr Val Ala Glu Gln Phe Pro Val Thr Tyr Val Arg Asn Phe Arg Gly Leu
 *** Leu *** Pro Ser Ser Phe Leu *** Arg Met *** Glu Ile Ser Ala Gly Trp

 Gln Val Lys Ser Leu Ser Arg Ser Ser Ala Ala Ala His Asn Ser Ser Leu Gln
 Ser Phe Lys Gln Phe His Ala Pro Leu His Leu Leu Thr Ile Pro Leu Cys Ser
 Ala Ser Ser Lys Phe Thr Leu Pro Phe Ile Cys Cys Arg Ser Gln Phe Val Ala

 CCG ACT TGA AAA CTT TCA CTC GCC CTT CTA CGT CGT CGC ACT AAC CTT CTG TCG
 495 504 513 522 531 540
 GGC TGA ACT TTT GAA AGT GAG CGG GAA GAT GCA GCA GCG TGA TTG GAA GAC AGC

 Gly *** Thr Phe Glu Ser Glu Arg Glu Asp Ala Ala Ala *** Leu Glu Asp Ser
 Ala Glu Leu Leu Lys Val Ser Gly Lys Met Gln Gln Arg Asp Trp Lys Thr Ala
 Leu Asn Phe *** Lys *** Ala Gly Arg Cys Ser Ser Val Ile Gly Arg Gln Leu

FIGURE 3 (continuation 1)

Val Arg *** Leu Pro Gly Ala Arg Asn His Ser Ser Gly Thr Pro Gly Tyr Asn
 Tyr Val Asp Tyr His Ala Arg Gly Thr Thr Pro Leu Ala Leu Pro Gly Thr Ile
 Thr Cys Thr Met Thr Pro Gly Gly Pro Gln Pro Phe Leu Trp His Ala Arg Leu
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 ACA TGT GCA GTA TCA CCC GGG CGG GCC AAC ACC CTT CTC GGT CAC CCG GGC ATT
 S49 558 567 576 585 594
 TGT ACA CGT CAT AGT GGG CCC GCC CGG TTG TGG GAA GAG CCA GTG GGC CCG TAA
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Cys Thr Arg His Ser Gly Pro Ala Arg Leu Trp Glu Glu Pro Val Gly Pro ***
 Val His Val Ile Val Gly Pro Pro Gly Cys Gly Lys Ser Gln Trp Ala Arg Asn
 Tyr Thr Ser *** Trp Ala Arg Pro Val Val Gly Arg Ala Ser Gly Pro Val Ile

 Gln Gln Ala *** Pro Cys Arg Ser Ser Ala *** Tyr Phe Tyr Thr Thr Pro His
 Lys Ser Leu Arg Pro Val Gly Val Pro Leu Arg Thr Ser Ile Leu Pro Pro Ile
 Lys Ala Ser Gly Leu Ser Val *** Gln Phe Gly Leu Leu Phe Leu His His Ser
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 AAA ACG ACT CGG ATC CCT GTG GAT GAC CTT CGG ATC ATC TTT ATT CAC CAC CCT
 603 612 621 630 639 648
 TTT TGC TGA GCC TAG GGA CAC CTA CTG GAA GCC TAG TAG AAA TAA GTG GTG GGA
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Phe Cys *** Ala *** Gly His Leu Leu Glu Ala *** *** Lys *** Val Val Gly
 Phe Ala Glu Pro Arg Asp Thr Tyr Trp Lys Pro Ser Arg Asn Lys Trp Trp Asp
 Leu Leu Ser Leu Gly Thr Pro Thr Gly Ser Leu Val Glu Ile Ser Gly Gly Met

 Ile Asp His Leu Leu Leu Gln Gln Lys Pro His Asn Lys His Ser Thr Val Lys
 Ser Ile Met Ser Phe Phe Asn Asn Asn Gln Ile Ile Lys Ile Ala Pro *** Arg
 Pro Tyr *** Pro Ser Ser Thr Thr Lys Ser Ser Lys *** Pro Gln Asn Gly
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 ACC TAT AGT ACC TCT TCA ACA ACA AAA CCT ACT AAA AAT ACC GAC CAA TGG
 657 666 675 684 693 702
 TGG ATA TCA TGG AGA AGA AGT TGT TGT TTT GGA TGA TTT TTA TGG CTG GTT ACC
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Trp Ile Ser Trp Arg Arg Ser Cys Cys Phe Gly *** Phe Leu Trp Leu Val Thr
 Gly Tyr His Gly Glu Glu Val Val Val Leu Asp Asp Phe Tyr Gly Trp Leu Pro
 Asp Ile Met Glu Lys Leu Leu Phe Trp Met Ile Phe Met Ala Gly Tyr Leu

 Pro His Asp Val Ser Val Thr His Gly Thr Asp Met Ser Gln Leu Ser *** Leu
 Pro Ile Ile *** Gln Ser Gln Thr Val Pro Ile Trp Gln Ser Tyr Leu Ser Phe
 Gln Ser Ser Arg Ser Leu Ser His Ser Arg Tyr Gly Asn Val Thr Ser Val Leu
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 AAC CCT ACT AGA TGA CTC TGA CAC ACT GGC CAT AGG TAA CTG ACA TCT CTG ATT
 711 720 729 738 747 756
 TTG GGA TGA TCT ACT GAG ACT GTG TGA CCG GTA TCC ATT GAC TGT AGA GAC TAA
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Leu Gly *** Ser Thr Glu Thr Val *** Pro Val Ser Ile Asp Cys Arg Asp ***
 Trp Asp Asp Leu Leu Arg Leu Cys Asp Arg Tyr Pro Leu Thr Val Glu Thr Lys
 Gly Met Ile Tyr *** Asp Cys Val Thr Gly Ile His *** Leu *** Arg Leu Lys

 Pro Tyr Gln Glu Lys Pro Gly Cys Tyr Lys Ser *** Trp Cys Asp Pro Gly
 Pro Thr Ser Asn Arg Lys Gln Gly Ala Thr Asn Gln Asn Gly Ala Ile Leu Gly
 Pro Pro Val Thr Gly Lys Lys Ala Arg Leu Ile Lys Ile Val Leu Leu *** Ala
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 TCC CCC ATG ACA AGG AAA AAA CCG GGC GTC ATA AAA CTA ATG GTC GTT AGT CCG
 765 774 783 792 801 810
 AGG GGG TAC TGT TCC TTT TTT GGC CCG CAG TAT TTT GAT TAC CAG CAA TCA GGC
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Arg Gly Tyr Cys Ser Phe Phe Gly Pro Gln Tyr Phe Asp Tyr Gln Gln Ser Gly
 Gly Gly Thr Val Pro Phe Leu Ala Arg Ser Ile Leu Ile Thr Ser Asn Gln Ala
 Gly Val Leu Phe Leu Phe Trp Pro Ala Val Phe *** Leu Pro Ala Ile Arg Pro

FIGURE 3 (continuation 2)

Gly Pro Ile Thr Ser Arg Leu Gln Gln Gly Leu Gln Leu Glu Arg Asp Ser
 Gly Leu Phe Pro Val Gly *** Ser Ser Asp Trp Ser Tyr Phe Ser Glu Ile Pro
 Gly Trp Ser His Tyr Glu Glu Val Ala Thr Gly Ala Thr Ser Ala Arg *** Arg
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 GGG GGT CCT TAC CAT GAG GAG TTG ACG ACA GGG TCG ACA TCT TCG AGA GAT AGC
 819 828 837 846 855 864
 CCC CCA GGA ATG GTA CTC CYC AAC TGC TGT CCC AGC TGT AGA AGC TCT CTA TCG
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Pro Pro Gly Met Val Leu Leu Asn Cys Cys Pro Ser Cys Arg Ser Ser Leu Ser
 Pro Gln Glu Trp Tyr Ser Ser Thr Ala Val Pro Ala Val Glu Ala Leu Tyr Arg
 Pro Arg Asn Gly Thr Pro Gln Leu Leu Ser Gln Leu *** Lys Leu Ser Ile Gly
 Ser *** *** Lys Ala Ile Lys Ser Ser Gln Gln Leu Val Ile Trp Pro Pro Val
 Pro Asn Ser Ser Gln Leu Lys Pro Leu Ser Ser Phe Leu Gly Arg Leu Tyr
 Leu Ile Val Val Lys Cys Asn Gln Phe Val Ala Pro Ser Cys Asp Val Ser Thr
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 CTC CTA ATG ATG AAA CGT TAA AAC CTT CTG ACG ACC TCT TGT TAG GTG CCT CCA
 873 882 891 900 909 918
 GAG GAT TAC TAC TTT GCA ATT TTG GAA GAC TGC TGG AGA ACA ATC CAC GGA GGT
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Glu Asp Tyr Tyr Phe Ala Ile Leu Glu Asp Cys Trp Arg Thr Ile His Gly Gly
 Arg Ile Thr Thr Leu Gln Phe Trp Lys Thr Ala Gly Glu Gln Ser Thr Glu Val
 Gly Leu Leu Leu Cys Asn Phe Gly Arg Leu Leu Glu Asn Asn Pro Arg Arg Tyr
 Arg Leu Gly Ile Gln Leu Leu Pro Gly Val Arg His Gly Lys Met Tyr Phe
 Gly Phe Ala Ser Lys Phe Cys His Val Trp Gly Thr Gly Lys Glu Trp Ile Phe
 Gly Ser Pro Arg Asn Ser Ala Thr Ser Gly Gly Gln Ala Arg Lys Gly Tyr Leu
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 TGG GCT TCC GGC TAA ACT TCG TCA CCT GGG TGG GAC ACG GGA AAA GGG TAT ATT
 927 936 945 954 963 972
 ACC CGA AGG CCG ATT TGA AGC AGT GGA CCC ACC CTG TGC CCT TTT CCC ATA TAA
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Thr Arg Arg Pro Ile *** Ser Ser Gly Pro Thr Leu Cys Pro Phe Pro Ile ***
 Pro Glu Gly Arg Phe Glu Ala Val Asp Pro Pro Cys Ala Leu Phe Pro Tyr Lys
 Pro Lys Ala Asp Leu Lys Gln Trp Thr His Pro Val Pro Phe Ser His Ile Lys
 Leu Asn Ser Leu Arg Lys Gln *** *** Met Thr Ile Thr Lys Ile Lys Ile ***
 Tyr Ile Val Ser Asp Lys Lys Asn Asp Cys Arg Leu Pro Lys *** Lys *** Glu
 Ile Phe *** Gln Thr Lys Lys Thr Ile Val Asp Tyr His Asn Lys Asn Lys Asn
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 TTA TTT AAT GAC TCA GAA AAA ACA ATA GTG TAG CAT TAC CAA AAA TAA AAA TAA
 981 990 999 1008 1017 1026
 AAT AAA TTA CTG AGT CTT TTT TGT TAT CAC ATC GTA ATG GTT TTT ATT TTT ATT
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Asn Lys Leu Leu Ser Leu Phe Cys Tyr His Ile Val Met Val Phe Ile Phe Ile
 Ile Asn Tyr *** Val Phe Phe Val Ile Thr Ser *** Trp Phe Leu Phe Leu Phe
 *** Ile Thr Glu Ser Phe Leu Leu Ser His Arg Asn Gly Phe Tyr Phe Tyr Ser
 Lys Ser Pro Arg Glu Pro Tyr Ile Arg Gln Ile Thr Cys Leu Tyr Asp Val Lys
 Asn Leu Pro Asp Lys Leu Ile Phe Glu Arg Phe Gln Val Tyr Ile Thr Leu Arg
 Met *** Leu Thr Lys *** Ser Leu Asn Glu Ser Asn Tyr Met Phe Leu *** Gly
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 GTA AAT CTC CCA GAA AGT CCT ATT TAA GAG ACT TAA CAT GTA TTT ATC AGT TGG
 1035 1044 1053 1062 1071 1080
 CAT TTA GAG GGT CTT TCA GGA TAA ATT CTC TGA ATT GTA CAT AAA TAG TCA ACC
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 His Leu Glu Gly Leu Ser Gly *** Ile Leu *** Ile Val His Lys *** Ser Thr
 Ile *** Arg Val Phe Gln Asp Lys Phe Ser Glu Leu Tyr Ile Asn Ser Gln Pro
 Phe Arg Gly Ser Phe Arg Ile Asn Ser Leu Asn Cys Thr *** Ile Val Asn Leu

FIGURE 3 (continuation 3)

Gly Cys Leu Lys Pro Ser His Asn Cys Lys Pro Ala Cys Leu Gly Pro Arg His
 Val Val Tyr Asn Gln Ala Thr Thr Ala Asn Gln Leu Ala Tyr Gly Leu Gly Thr
 *** Trp Met Ile Lys Pro Gln Pro Gln Met Lys Ser Arg Met Ala Trp Ala Gln
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 AAT GGT GTA TTA AAA CCC GAC ACC AAC GTA AAA CCT CGC GTA TCG GGT CCG GAC
 1089 1098 1107 1116 1125 1134
 TTA CCA CAT AAT TTT GGG CTG TGG TTG CAT TTT GGA GCG CAT AGC CCA GGC CTG
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Leu Pro His Asn Phe Gly Leu Trp Leu His Phe Gly Ala His Ser Pro Gly Leu
 Tyr His Ile Ile Leu Gly Cys Gly Cys Ile Leu Glu Arg Ile Ala Gln Ala Cys
 Thr Thr *** Phe Trp Ala Val Val Phe Trp Ser Ala *** Pro Arg Pro Val

 Ala Arg Cys Gln His Pro Tyr Lys Phe Pro Ala Val Ala Pro Lys Lys *** ***
 His Glu Val Asn Thr His Thr Asn Leu His Leu Trp Leu Gln Asn Arg Lys Asn
 Thr Ser Ser Met Pro Thr Pro Ile *** Ile Ser Gly Cys Ser Thr Glu Lys Ile
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 ACA CGA GCT GTA ACC ACA CCC ATA AAT TTA CCT CCG TGT CGA CCA AAG AAA ATA
 1143 1152 1161 1170 1179 1188
 TGT GCT CGA CAT TGG TGT GGG TAT TTA AAT GGA GCC ACA GCT GGT TTC TTT TAT
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Cys Ala Arg His Trp Cys Gly Tyr Leu Asn Gly Ala Thr Ala Gly Phe Phe Tyr
 Val Leu Asp Ile Gly Val Gly Ile *** Met Glu Pro Gln Leu Val Ser Phe Ile
 Cys Ser Thr Leu Val Trp Val Phe Lys Trp Ser His Ser Trp Phe Leu Leu Leu

 Lys Ala Pro Val Leu *** Asn Asn Pro Arg Ala Arg Thr Gln Pro His Leu Val
 Asn Pro Gln Phe Trp Asp Ile Thr Gln Asp Leu Glu Pro Lys Pro Thr Phe Tyr
 Ile Gln Ser Ser Gly Ile Leu Gln Lys Thr *** Ser Gln Asn Pro Pro Ser Thr
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 ATA AAC CGA CCT TGG TTA GTT AAC AAA CCA GAT CGA GAC CAA ACC CCC ACT TCA
 1197 1206 1215 1224 1233 1242
 TAT TTG GCT GGA ACC AAT CAA TTG TTT GGT CTA GCT CTG GTT TGG GGG TGA AGT
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Tyr Leu Ala Gly Thr Asn Gln Leu Phe Gly Leu Ala Leu Val Trp Gly *** Ser
 Ile Trp Leu Glu Pro Ile Asn Cys Leu Val *** Leu Trp Phe Gly Gly Glu Val
 Phe Gly Trp Asn Gln Ser Ile Val Trp Ser Ser Gly Leu Gly Val Lys Tyr

 Gln Leu Pro Leu Tyr Leu Ala Ala Lys His His Pro Pro Leu Leu Leu *** Tyr
 Arg Ser His Tyr Thr Phe Pro Gln Arg Ile Thr His Arg Ser Ser Tyr Asn Ile
 Gly Pro Thr Thr Pro Leu Pro Ser Gly *** Pro Thr Ala Pro Pro Thr Thr Leu
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 TGG ACC TCA CCA TCC ATT TCC CGA CGG AAT ACC ACA CCG CCC TCC TCA TCA ATT
 1251 1260 1269 1278 1287 1296
 ACC TGG AGT GGT AGG TAA AGG GCT GCC TTA TGG TGT GGC GGG AGG AGT AGT TAA
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Thr Trp Ser Gly Arg *** Arg Ala Ala Leu Trp Cys Gly Gly Arg Ser Ser ***
 Pro Gly Val Val Gly Lys Gly Leu Pro Tyr Gly Val Ala Gly Gly Val Val Asn
 Leu Glu Trp *** Val Lys Gly Cys Leu Met Val Trp Arg Glu Glu *** Leu Ile

 Leu Pro *** Leu Gly Leu Gln His Leu Pro Asn Cys Leu Gln Cys Gly Leu Tyr
 Tyr Pro Asp Tyr Ala Leu Asn Thr Ser Pro Thr Val Phe Asn Ala Asp Leu Ile
 Ile Pro Thr Met Pro Trp Thr Pro Pro Pro *** Leu Thr Pro Met Trp Ser
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 ATA TCC CCA GTA TCC GGT TCA ACC ACC TCC CCC AAT GTT TCA ACC GTA GGT TCT
 1305 1314 1323 1332 1341 1350
 TAT AGG GGT CAT AGG CCA AGT TGG TGG AGG GGG TTA CAA AGT TGG CAT CCA AGA
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Tyr Arg Gly His Arg Pro Ser Trp Trp Arg Gly Leu Gln Ser Trp His Pro Arg
 Ile Gly Val Ile Gly Gln Val Gly Gly Gly Tyr Lys Val Gly Ile Gln Asp
 *** Gly Ser *** Ala Lys Leu Val Glu Gly Val Thr Lys Leu Ala Ser Lys Ile

FIGURE 3 (continuation 4)

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Cys Cys His Val Trp Cys Arg Lys Ser *** Leu His His Pro Arg Gln Pro Leu
Val Val Thr Ser Gly Val Gly Arg Gln Asn Ser Thr Ile Pro Asp Arg Pro Tyr
Leu Leu Leu Pro Gly Leu Val Glu Lys Ile Leu Pro Ser Pro Thr Glu Pro Thr
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
ATT GTT GTC ACC TGG GTT GTG GAG AAA CTA ATC TCC ACT ACC CCA GAG ACC CCA
1359 1368 1377 1386 1395 1404
TAA CAA CAG TGG ACC CAA CAC CTC TTT GAT TAG AGG TGA TGG GGT CTC TGG GGT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
*** Gln Gln Trp Thr Gln His Leu Phe Asp *** Arg *** Trp Gly Leu Trp Gly
Asn Asn Ser Gly Pro Asn Thr Ser Leu Ile Arg Gly Asp Gly Val Ser Gly Val
Thr Thr Val Asp Pro Thr Pro Leu *** Leu Glu Val Met Gly Ser Leu Gly ***

Ile *** Ile *** Gly Lys *** Tyr Pro Leu Ile Pro Phe Thr Pro Thr Pro Pro
Phe Glu Tyr Lys Ala Lys Arg Ile Arg Tyr Tyr Gln Phe Pro Leu Pro Leu Pro
Phe Asn Met Asn Leu Arg Glu Leu Val Thr Thr Asn Ser Leu Tyr Pro Tyr Pro
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
TTT TAA GTA TAA ATC GGA AAG ATT ATG CCA TCA TAA CCT TTC CAT CCC CAT CCC
1413 1422 1431 1440 1449 1458
AAA ATT CAT ATT TAG CCT TTC TAA TAC GGT AGT ATT GGA AAG GTA GGG GTA GGG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
Lys Ile His Ile *** Pro Phe *** Tyr Gly Ser Ile Gly Lys Val Gly Val Gly
Lys Phe Ile Phe Ser Leu Ser Asn Thr Val Val Leu Glu Arg *** Gly *** Gly
Asn Ser Tyr Leu Ala Phe Leu Ile Arg *** Tyr Trp Lys Gly Arg Gly Arg Gly

Gln His Arg Arg Leu Pro Pro Pro Val Pro Arg His Gln Ile Glu Ala Arg ***
Asn Thr Gly Gly Ser Pro Pro Leu Phe Gln Gly Ile Asn Phe Arg Leu Glu Asn
Thr Pro Ala Ala Gln Pro Pro Ser Ser Ser Ala Ser Thr Ser Asp *** Ser Thr
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
CCA ACC ACG GCG GAC TCC CCC CCT CCT TGA CCG GCT ACA ACT TAG AGT CGA GCA
1467 1476 1485 1494 1503 1512
GGT TGG TGC CGC CTG AGG GGG GGA ACT GGC CGA TGT TGA ATC TCA GCT CGT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
Gly Trp Cys Arg Leu Arg Gly Gly Thr Gly Arg Cys *** Ile Ser Ala Arg
Val Gly Ala Ala *** Gly Gly Glu Glu Leu Ala Asp Val Glu Ser Gln Leu Val
Leu Val Pro Pro Glu Gly Gly Arg Asn Trp Pro Met Leu Asn Leu Ser Ser Leu

Cys Glu Leu Ile Ala Ala Leu Thr Arg Arg Lys His His Thr Cys Ile Arg ***
Val Asn Trp Ser Pro Gln Ser His Gly Gly Arg Ile Thr Leu Val Phe Glu Arg
Leu Met Gly Leu His Ser Arg Thr Asp Glu Glu *** Pro Ser Tyr Leu Asn Glu
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
ATT GTA AGG TTC TAC CGA CGC TCA CAG GAG GAG AAT ACC ACT CAT GTT TAA GAG
1521 1530 1539 1548 1557 1566
TAA CAT TCC AAG ATG GCT GCG AGT GTC CTC CTC TTA TGG TGA GTA CAA ATT CTC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
*** His Ser Lys Met Ala Ala Ser Val Leu Leu Trp *** Val Gln Ile Leu
Asn Ile Pro Arg Trp Leu Arg Val Ser Ser Ser Tyr Gly Glu Tyr Lys Phe Ser
Thr Phe Gln Asp Gly Cys Glu Cys Pro Pro Leu Met Val Ser Thr Asn Ser Leu

Phe Pro Pro Phe Gln Leu Tyr Gly Asp Lys Pro Ala Met Gln Leu Pro Lys Gln
Ser Leu Arg Ser Asn Phe Ile Gly Thr Lys Arg Arg Trp Arg Tyr Arg Asn Arg
Leu Phe Ala Pro Ile Ser Ser Val Arg Arg Glu Ala Gly Asp Thr Val Thr Glu
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
ATC TTT CCG CCC TTA ACT TCT ATG GGC AGA AAG CCG CGG TAG ACA TTG CCA AAC
1575 1584 1593 1602 1611 1620
TAG AAA GGC GGG AAT TGA AGA TAC CCG TCT TTC GGC GCC ATG TGT AAC GGT TTC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
*** Lys Gly Gly Asn *** Arg Tyr Pro Ser Phe Gly Ala Ile Cys Asn Gly Phe
Arg Lys Ala Gly Ile Glu Asp Thr Arg Leu Ser Ala Pro Ser Val Thr Val Ser
Glu Arg Arg Glu Leu Lys Ile Pro Val Phe Arg Arg His Leu *** Arg Phe Leu

FIGURE 3 (continuation 5)

Leu Arg Pro Thr Gly Phe Ile Thr Lys Glu Pro Pro His Lys Trp Ser Pro Gln
 Phe Ala Pro His Val Leu Tyr Pro Arg Arg Arg Leu Ile Asn Gly Leu His Ser
 Ser Pro Pro Thr Tyr Trp Ile His Asp Glu Gly Ser Ser Thr Glu Leu Ile Ala
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 ACT TCC GCC CCA CAT GGT TTA TAC CAG AAG AGG CCT CCT ACA AAG GTT CTA CCG
 1629 1638 1647 1656 1665 1674
 TGA AGG CGG GGT GTA CCA AAT ATG GTC TTC TCC GGA GGA TGT TTC CAA GAT GGC
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 *** Arg Arg Gly Val Pro Asn Met Val Phe Ser Gly Gly Cys Phe Gln Asp Gly
 Glu Gly Gly Val Tyr Gln Ile Trp Ser Ser Pro Glu Asp Val Ser Lys Met Ala
 Lys Ala Gly Cys Thr Lys Tyr Gly Leu Leu Arg Arg Met Phe Pro Arg Trp Leu
 Pro Pro Pro Asp Thr Lys Gln Pro Leu Ala Glu Lys Ala Val Asp Asp *** Leu
 Arg Pro Arg Thr Arg Arg Arg Tyr Arg Arg Arg Pro Trp Thr Met Arg Tyr
 Ala Pro Ala Pro Gly Asp Glu Ala Thr Val Gly Gly Gln Gly Arg *** Gly Ile
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 ACG CCC CCG CCC AGG CAG AAG ACG CCA TTG CGG AGG AAC CGG TGC AGT AGG ATA
 1683 1692 1701 1710 1719 1728
 TGC GGG GGC GGG TCC GTC TTC TGC GGT AAC GCC TCC TTG GCC ACG TCA TCC TAT
 --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Cys Gly Gly Gly Ser Val Phe Cys Gly Asn Ala Ser Leu Ala Thr Ser Ser Tyr
 Ala Gly Ala Gly Pro Ser Ser Ala Val Thr Pro Pro Trp Pro Arg His Pro Ile
 Arg Gly Arg Val Arg Leu Leu Arg *** Arg Leu Leu Gly His Val Ile Leu ***

Leu Ser Leu Leu Ala Ser Ser Tyr Tyr
 Phe His Phe Phe His Ala Ala Thr Thr Asn
 Phe Thr Phe Ser Thr Arg Gln Gln Leu Ile
 --- --- --- --- --- --- --- --- --- --- ---
 TTT TCA CTT TCT TCA CGC GAC GAC ATC ATA A 5'
 1737 1746 1755
 AAA AGT GAA AGA AGT GCG CTG CTG TAG TAT T 3'
 --- --- --- --- --- --- --- --- --- --- ---
 Lys Ser Glu Arg Ser Ala Leu Leu *** Tyr
 Lys Val Lys Glu Val Arg Cys Cys Ser Ile
 Lys *** Lys Lys Cys Ala Ala Val Val

FIGURE 3 (continuation 6)

11/17

10 20 30 40 50 60
MPSKKSGPQP HKRWVFTLNN PSEEENKIR ELPISLFDYF VCGEEGLEEG RTPHLQGFAN
70 80 90 100 110 120
FAKKQTFNKV KHYFGARCHI EAKAGTDQQN KEYCSKEGHI LIECGAPRNQ GKRSDLSTAV
130 140 150 160 170 180
STLLETGSIV TVAEQFPVTY VRNFRGLAEL LKVSGKMQR DWKTAHVIV GPPGCGKSQW
190 200 210 220 230 240
ARNFAEPRDT YWKPSRNKWW DGYHGEEVVV LDDFYGWLPW DOLLRLCDRY PLTVETKGCT
250 260 270 280 290 300
VPFLARSILI TSNQAPQEWEY SSTAVPAVEA LYRRITTLQF WKTAGEQSTE VPEGRFEAVD
310 320 330 340 350 360
PPCALFPYKI NY*.....

FIGURE 4

10 20 30 40 50 60
MTWPKRRYRR RRTRPRSHLG NILRRRPyLV HPAFRNRYRW RRKTGIFNSR LSREFVLTIR
70 80 90 100 110 120
GGHSQPSWNV NELRFNIGQF LPPSGGTNPL PLPFQYYRIR KAKYEFYPRO PITSNQRGVG
130 140 150 160 170 180
STVVILDANF VTPSTNLAYD PYINYSSRHT IRQPFTYHSR YFTPKELDQ TIDWFQPNNK
190 200 210 220 230 240
RNQLWLHLNT HTNVERTGLG YALQNATTAQ NYVVRLTIVY QFREFILKDP LNE*.....

FIGURE 5

10 20 30 40 50 60
MISIPPLIST RLPVGVPRLS KITGPLALPT TGRAHYDVYS CLPITLLHLP AHFQKFSQPA
70 80 90 100 110 120
EISHIRYRKL LGYSHQRPRL QKGTHSSRQV AALPLVPRSS TLDKYVAFFT AVFFILLVGS
130 140 150 160 170 180
FRFLDVAAGT KIPLHLVKSL LLSKIRKPLE VRSSTLFQTF LATNKIIKKG DWKLPHYFVFL
190 200 210 220 230 240
LLGRIIKGEH PPLMGLRAAF LAWHFH....

FIGURE 6

circopormank	1	10	20	30	40	50	
circopormeeh	1	ACCAGCGCAC	TTCGGCAGCG	GCAGCACCTC	GGCAGCGTCA	GTGAAAATGC	50
circopordfp	1	ACCAGCGCAC	TTCGGCAGCG	GCAGCACCTC	GGCAGCGTCA	GTGAAAATGC	50
circopormank	51	60	70	80	90	100	
circopormeeh	51	CAAGCAAGAA	AAGCGGCCCG	CAACCCCATA	AGAGGTGGGT	GTTCAACCTT	100
circopordfp	51	CAAGCAAGAA	AAGCGGCCCG	CAACCCCATA	AGAGGTGGGT	GTTCAACCTT	100
circopormeeh	51	CAAGCAAGAA	AAGCGGCCCG	CAACCCCATA	AGAGGTGGGT	GTTCAACCTT	100
circopormank	101	110	120	130	140	150	
circopormeeh	101	AATAATCCTT	CCGAGGGAGGA	GAAAAACAAA	ATACGGGAGC	TTCCAATCTC	150
circopordfp	101	AATAATCCTT	CCGAGGGAGGA	GAAAAACAAA	ATACGGGAGC	TTCCAATCTC	150
circopormeeh	151	160	170	180	190	200	
circopormank	151	CCTTTTGAT	TATTTTGT	CGGGAGAGGA	AGTTTGGAA	GAGGGTAGAA	200
circopordfp	151	CCTTTTGAT	TATTTTGT	CGGGAGAGGA	AGTTTGGAA	GAGGGTAGAA	200
circopormeeh	151	CCTTTTGAT	TATTTTGT	CGGGAGAGGA	AGTTTGGAA	GAGGGTAGAA	200
circopormank	201	210	220	230	240	250	
circopormeeh	201	CTCTCACCT	CCAGGGTTT	GCTAATTG	CTAAGAACGA	GACTTTAAC	250
circopordfp	201	CTCTCACCT	CCAGGGTTT	GCGAATTG	CTAAGAACGA	GACTTTAAC	250
circopormeeh	201	CTCTCACCT	CCAGGGTTT	GCGAATTG	CTAAGAACGA	GACTTTAAC	250
circopormank	251	260	270	280	290	300	
circopormeeh	251	AAGGTGAAGT	GGTATTTGG	TGCCCCTGC	CACATCGAGA	AAGCGAAAGG	300
circopordfp	251	AAGGTGAAGT	GGTATTTGG	TGCCCCTGC	CACATCGAGA	AAGCGAAAGG	300
circopormeeh	251	AAGGTGAAGT	GGTATTTGG	TGCCCCTGC	CACATCGAGA	AAGCGAAAGG	300
circopormank	301	310	320	330	340	350	
circopormeeh	301	AACCGACCAG	CAGAATAAAG	AATACTGCAG	TAAAGAACGC	CACATACTTA	350
circopordfp	301	AACCGACCAG	CAGAATAAAG	AATACTGCAG	TAAAGAACGC	CACATACTTA	350
circopormeeh	301	AACCGACCAG	CAGAATAAAG	AATACTGCAG	TAAAGAACGC	CACATACTTA	350
circopormank	351	360	370	380	390	400	
circopormeeh	351	TCGAGTGTGG	AGCTCCGG	AACCAGGGGA	AGCGCAGCGA	CTGTCTACT	400
circopordfp	351	TCGAGTGTGG	AGCTCCGG	AACCAGGGGA	AGCGCAGCGA	CTGTCTACT	400
circopordfp	351	TCGAGTGTGG	AGCTCCGG	AACCAGGGGA	AGCGCAGCGA	CTGTCTACT	400
circopormank	401	410	420	430	440	450	
circopormeeh	401	GCTGTGAGTA	CCCTTTGGA	GACGGGGTCT	TTGGTGACTG	TAGCCGAGCA	450
circopordfp	401	GCTGTGAGTA	CCCTTTGGA	GACGGGGTCT	TTGGTGACTG	TAGCCGAGCA	450
circopordfp	401	GCTGTGAGTA	CCCTTTGGA	GACGGGGTCT	TTGGTGACTG	TAGCCGAGCA	450
circopormank	451	460	470	480	490	500	
circopormeeh	451	GTTCCCTGTA	ACGTATGTGA	GAAATTTCCG	CGGGCTGGCT	GAACCTTTGA	500
circopordfp	451	GTTCCCTGTA	ACGTATGTGA	GAAATTTCCG	CGGGCTGGCT	GAACCTTTGA	500
circopormeeh	451	GTTCCCTGTA	ACGTATGTGA	GAAATTTCCG	CGGGCTGGCT	GAACCTTTGA	500
circopormank	501	510	520	530	540	550	
circopormeeh	501	AAGTGAGCGG	GAAGATGCAG	CAGCGTGTATT	GGAAGACAGC	TGTACACGTC	550
circopordfp	501	AAGTGAGCGG	GAAGATGCAG	CAGCGTGTATT	GGAAGACAGC	TGTACACGTC	550
circopordfp	501	AAGTGAGCGG	GAAGATGCAG	CAGCGTGTATT	GGAAGACAGC	TGTACACGTC	550
circopormank	551	560	570	580	590	600	
circopormeeh	551	ATAGTGGGCC	CGCCCCGGTTG	TGGGAAGAGC	CAGTGGGCC	GTAATTTGC	600
circopordfp	551	ATAGTGGGCC	CGCCCCGGTTG	TGGGAAGAGC	CAGTGGGCC	GTAATTTGC	600
circopordfp	551	ATAGTGGGCC	CGCCCCGGTTG	TGGGAAGAGC	CAGTGGGCC	GTAATTTGC	600

FIGURE 7

		610	620	630	640	650	
circopormank	601	TGAGCCTAGC	GACACCTACT	GGAAGCTTAG	TAGAAATAAG	TGGTGGGATG	650-
circopormeeh	601	TGAGCCTAGG	GACACCTACT	GGAAGCTTAG	TAGAAATAAG	TGGTGGGATG	650
circopordfp	601	TGAGCCTAGG	GACACCTACT	GGAAGCTTAG	TAGAAATAAG	TGGTGGGATG	650
		660	670	680	690	700	
circopormank	651	GATATCATGG	AGAAGAAGTT	GTTGTTTGG	ATGATTTTA	TGGCTGGTTA	700
circopormeeh	651	GATATCATGG	AGAAGAAGTT	GTTGTTTGG	ATGATTTTA	TGGCTGGTTA	700
circopordfp	651	GATATCATGG	AGAAGAAGTT	GTTGTTTGG	ATGATTTTA	TGGCTGGTTA	700
		710	720	730	740	750	
circopormank	701	CCTTGGGATG	ATCTACTGAG	ACTGTGTGAC	CGGTATCCAT	TGACTGTAGA	750
circopormeeh	701	CCTTGGGATG	ATCTACTGAG	ACTGTGTGAC	CGGTATCCAT	TGACTGTAGA	750
circopordfp	701	CCTTGGGATG	ATCTACTGAG	ACTGTGTGAC	CGGTATCCAT	TGACTGTAGA	750
		760	770	780	790	800	
circopormank	751	GACTAAAGGC	GGTACTGTTTC	CTTTTTGGC	TGGCAGTATT	TTGATTACCA	800
circopormeeh	751	GACTAAAGGG	GGTACTGTTTC	CTTTTTGGC	CCGCAGTATT	TTGATTACCA	800
circopordfp	751	GACTAAAGGG	GGTACTGTTTC	CTTTTTGGC	CCGCAGTATT	TTGATTACCA	800
		810	820	830	840	850	
circopormank	801	GCAATCAGGC	CCCCCAGGAA	TGGTACTCCT	CAACTGCTGT	CCCAGCTGTA	850
circopormeeh	801	GCAATCAGGC	CCCCCAGGAA	TGGTACTCCT	CAACTGCTGT	CCCAGCTGTA	850
circopordfp	801	GCAATCAGGC	CCCCCAGGAA	TGGTACTCCT	CAACTGCTGT	CCCAGCTGTA	850
		860	870	880	890	900	
circopormank	851	GAAGCTCTCT	ATCGGAGGAT	TACTACTTTG	CAATTTGGG	AGACTGCTGG	900
circopormeeh	851	GAAGCTCTCT	ATCGGAGGAT	TACTACTTTG	CAATTTGGG	AGACTGCTGG	900
circopordfp	851	GAAGCTCTCT	ATCGGAGGAT	TACTACTTTG	CAATTTGGG	AGACTGCTGG	900
		910	920	930	940	950	
circopormank	901	AGAACAAATCA	ACGGAGGTAC	CCGAAGGCCG	ATTTGAAGCA	GTGGACCCAC	950
circopormeeh	901	AGAACAAATCC	ACGGAGGTAC	CCGAAGGCCG	ATTTGAAGCA	GTGGACCCAC	950
circopordfp	901	AGAACAAATCC	ACGGAGGTAC	CCGAAGGCCG	ATTTGAAGCA	GTGGACCCAC	950
		960	970	980	990	1000	
circopormank	951	CCTGTGCCCT	TTTCCCATAT	AAAATAAATT	ACTGAGTCTT	TTTTGTTATC	1000
circopormeeh	951	CCTGTGCCCT	TTTCCCATAT	AAAATAAATT	ACTGAGTCTT	TTTTGTTATC	1000
circopordfp	951	CCTGTGCCCT	TTTCCCATAT	AAAATAAATT	ACTGAGTCTT	TTTTGTTATC	1000
		1010	1020	1030	1040	1050	
circopormank	1001	ACATCGTAAT	GGTTTTTATT	TTTATTTATT	TAGAGGGTCT	TTTAGGATAA	1050
circopormeeh	1001	ACATCGTAAT	GGTTTTTATT	TTTATTTATT	TAGAGGGTCT	TTTAGGATAA	1050
circopordfp	1001	ACATCGTAAT	GGTTTTTATT	TTTATTTATT	TAGAGGGTCT	TTAGGATAA	1050
		1060	1070	1080	1090	1100	
circopormank	1051	ATTCTCTGAA	TTGTACATAA	ATAGTCAGCC	TTACCACATA	ATTTGGGCT	1100
circopormeeh	1051	ATTCTCTGAA	TTGTACATAA	ATAGTCAGCC	TTACCACATA	ATTTGGGCT	1100
circopordfp	1051	ATTCTCTGAA	TTGTACATAA	ATAGTCAGCC	TTACCACATA	ATTTGGGCT	1100
		1110	1120	1130	1140	1150	
circopormank	1101	GTGGCTGCAT	TTTGGAGCGC	ATAGCCGAGG	CCTGTGTGCT	CGACATTGGT	1150
circopormeeh	1101	GTGGCTGCAT	TTTGGAGCGC	ATAGCCGAGG	CCTGTGTGCT	CGACATTGGT	1150
circopordfp	1101	GTGGCTGCAT	TTTGGAGCGC	ATAGCCGAGG	CCTGTGTGCT	CGACATTGGT	1150
		1160	1170	1180	1190	1200	
circopormank	1151	GTGGGTATTT	AAATGGAGCC	ACAGCTGGTT	TCTTTTATTA	TTTGGGTGGA	1200
circopormeeh	1151	GTGGGTATTT	AAATGGAGCC	ACAGCTGGTT	TCTTTTATTA	TTTGGGTGGA	1200
circopordfp	1151	GTGGGTATTT	AAATGGAGCC	ACAGCTGGTT	TCTTTTATTA	TTTGGGTGGA	1200

FIGURE 7 (continuation 1)

circopormank	1210	1220	1230	1240	1250	
circopormeh	1201 ACCAATCAAT	TGTTTGGTCC	AGCTCAGGTT	TGGGGGTGAA	GTACCTGGAG	1250
circopordfp	1201 ACCAATCAAT	TGTTTGGTCC	AGCTCAGGTT	TGGGGGTGAA	GTACCTGGAG	1250
circopormank	1251 TGGTAGGTAA	AGGGCTGCCT	TATGGTGTGG	TGGGAGGGAGT	AGTTAATATA	1300
circopormeh	1251 TGGTAGGTAA	AGGGCTGCCT	TATGGTGTGG	TGGGAGGGAGT	AGTTAATATA	1300
circopordfp	1251 TGGTAGGTAA	AGGGCTGCCT	TATGGTGTGG	TGGGAGGGAGT	AGTTAATATA	1300
circopormank	1310	1320	1330	1340	1350	
circopormeh	1301 GGGGTCAATAG	GCCAAGTTGG	TGGAGGGGGT	TACAAAGTTG	GCATCCAAGA	1350
circopordfp	1301 GGGGTCAATAG	GCCAAGTTGG	TGGAGGGGGT	TACAAAGTTG	GCATCCAAGA	1350
circopormank	1351 TAACAACAGT	GGACCCAACA	CCTCTTTAT	TAGAGGTGAT	GGGGTCTCTG	1400
circopormeh	1351 TAACAACAGT	GGACCCAACA	CCTCTTTGAT	TAGAGGTGAT	GGGGTCTCTG	1400
circopordfp	1351 TAACAACAGT	GGACCCAACA	CCTCTTTGAT	TAGAGGTGAT	GGGGTCTCTG	1400
circopormank	1410	1420	1430	1440	1450	
circopormeh	1401 GGGTAAAATT	CATATTCTAGC	CTTCTTAATA	CGGTAGTATT	GGAAAGGTAG	1450
circopordfp	1401 GGGTAAAATT	CATATTCTAGC	CTTCTTAATA	CGGTAGTATT	GGAAAGGTAG	1450
circopormank	1401 GGGTAAAATT	CATATTCTAGC	CTTCTTAATA	CGGTAGTATT	GGAAAGGTAG	1450
circopormeh	1451 GGGTAGGGGG	TTGGTGCCGC	CTGAGGGGGG	GAGGAACCTGG	CGATGTTGA	1500
circopordfp	1451 GGGTAGGGGG	TTGGTGCCGC	CTGAGGGGGG	GAGGAACCTGG	CGATGTTGA	1500
circopormeh	1451 GGGTAGGGGG	TTGGTGCCGC	CTGAGGGGGG	GAGGAACCTGG	CGATGTTGA	1500
circopormank	1510	1520	1530	1540	1550	
circopormeh	1501 ATCTGAGGTG	GTAAACATGC	CAAGATGGCT	GCAGTATCC	TCTTTTATG	1550
circopordfp	1501 ATCTGAGGTG	GTAAACATTC	CAAGATGGCT	GCAGTATCC	TCTTTTATG	1550
circopormank	1501 ATCTGAGGTG	GTAAACATTC	CAAGATGGCT	GCAGTATCC	TCTTTTATG	1550
circopormeh	1551 GTGACTACAA	ATTCTCTAGA	AAGGCGGGAA	TTGAAGATAC	CGTCTTTCG	1600
circopordfp	1551 GTGACTACAA	ATTCTCTAGA	AAGGCGGGAA	TTGAAGATAC	CGTCTTTCG	1600
circopormeh	1551 GTGACTACAA	ATTCTCTAGA	AAGGCGGGAA	TTGAAGATAC	CGTCTTTCG	1600
circopormank	1610	1620	1630	1640	1650	
circopormeh	1601 GCGCCATCTG	TAACGGTTTC	TGAAGGCGGG	GTGTGCCAAA	TATGGTCTTC	1650
circopordfp	1601 GCGCCATCTG	TAACGGTTTC	TGAAGGCAGG	GTGTGCCAAA	TATGGTCTTC	1650
circopordfp	1601 GCGCCATCTG	TAACGGTTTC	TGAAGGCAGG	GTGTGCCAAA	TATGGTCTTC	1650
circopormank	1660	1670	1680	1690	1700	
circopormeh	1651 TCCGGAGGAT	GTTTCCAAGA	TGGCTGCAGG	GGCGGGTCCT	TCTTCTGCAG	1700
circopordfp	1651 TCCGGAGGAT	GTTTCCAAGA	TGGCTGCAGG	GGCGGGTCCT	TCTTCTGCAG	1700
circopordfp	1651 TCCGGAGGAT	GTTTCCAAGA	TGGCTGCAGG	GGCGGGTCCT	TCTTCTGCAG	1700
circopormank	1710	1720	1730	1740	1750	
circopormeh	1701 TAACGCCCTCC	TTGGCCACGT	CATCTTATAAA	AAGTGAAGAGA	AGTGCCTGC	1750
circopordfp	1701 TAACGCCCTCC	TTGGCCACGT	CATCTTATAAA	AAGTGAAGAGA	AGTGCCTGC	1750
circopordfp	1701 TAACGCCCTCC	TTGGCCACGT	CATCTTATAAA	AAGTGAAGAGA	AGTGCCTGC	1750
circopormank	1760	1770	1780	1790	1800	
circopormeh	1751 TGTAGTATT.	.....	.....	.....	.....	1800
circopordfp	1751 TGTAGTATT.	.....	.....	.....	.....	1800
circopordfp	1751 TGTAGTATT.	.....	.....	.....	.....	1800

FIGURE 7 (continuation 2)

circopormank	1	10	MPSKKSGPQP	HKRWVFTLNN	PSEEKKNKIR	ELPISLFDYF	VCGEEGLEEG	50
circopormeeh	1	20	MPSKKSGPQP	HKRWVFTLNN	PSEEKKNKIR	ELPISLFDYF	VCGEEGLEEG	50
circopordfp[	1	30	MPSKKSGPOP	HKRWVFTLNN	PSEEKKNKIR	ELPISLFDYF	VCGEEGLEEG	50
circopormank	51	40	RTAHLQGFAN	FAKKQTFNKV	KWYFGARCHI	EAKGTDQQN	KEYCSKEGHI	100
circopormeeh	51	50	RTPHLQGFAN	FAKKQTFNKV	KWYFGARCHI	EAKGTDQQN	KEYCSKEGHI	100
circopordfp[	51	60	RTPHLQGFAN	FAKKQTFNKV	KWYFGARCHI	EAKGTDQQN	KEYCSKEGHI	100
circopormank	101	70	IIECGAPRNO	GKRSIDLSTAV	STLEETGSIV	TVAEQFPVTY	VRNFRGLAEL	150
circopormeeh	101	80	IIECGAPRNO	GKRSIDLSTAV	STLEETGSIV	TVAEQFPVTY	VRNFRGLAEL	150
circopordfp[	101	90	IIECGAPRNO	GKRSIDLSTAV	STLEETGSIV	TVAEQFPVTY	VRNFRGLAEL	150
circopormank	151	100	LKVSGKMQQR	DWKTAVHVIV	GPPGCGKSQW	ARNFAEPSDT	TWKPSRNKWW	200
circopormeeh	151	110	LKVSGKMQQR	DWKTAVHVIV	GPPGCGKSQW	ARNFAEPRDT	TWKPSRNKWW	200
circopordfp[	151	120	LKVSGKMQQR	DWKTAVHVIV	GPPGCGKSQW	ARNFAEPRDT	TWKPSRNKWW	200
circopormank	201	130	DGYHGEEVVV	DDFYGWLPW	DDLLRLCDRY	PLTVETKGGT	VPFLARSIL	250
circopormeeh	201	140	DGYHGEEVVV	DDFYGWLPW	DDLLRLCDRY	PLTVETKGGT	VPFLARSIL	250
circopordfp[	201	150	DGYHGEEVVV	DDFYGWLPW	DDLLRLCDRY	PLTVETKGGT	VPFLARSIL	250
circopormank	251	160	TSNQAPQEwy	SSTAVPAVEA	LYRRITTLQF	WKTAGEQSTE	VPEGRFEAVD	300
circopormeeh	251	170	TSNQAPQEwy	SSTAVPAVEA	LYRRITTLQF	WKTAGEQSTE	VPEGRFEAVD	300
circopordfp[	251	180	TSNQAPQEwy	SSTAVPAVEA	LYRRITTLQF	WKTAGEQSTE	VPEGRFEAVD	300
circopormank	301	190	PPCALFPYKI	NY	.....	.....	.....	350
circopormeeh	301	200	PPCALFPYKI	NY	.....	.....	.....	350
circopordfp[	301	210	PPCALFPYKI	NY	.....	.....	.....	350

FIGURE 8

circopormank	1	MTWPERRRYRR	RRTRPRSHLG	NILRRRPPYLA	HPAFRNRYRW	RRKTGIFNSR		50
circopormeeh	1	MTWPERRRYRR	RRTRPRSHLG	NILRRRPPYLA	HPAFRNRYRW	RRKTGIFNSR		50
circopordfp[	1	MTWPERRRYRR	RRTRPRSHLG	NILRRRPPYLV	HPAFRNRYRW	RRKTGIFNSR		50
circopormank	51	SKEFVLTIK	GGYSQPSWIV	WHLRFNIGQF	PPSGGTNPL	PLPFQYYRIR		100
circopormeeh	51	SKEFVLTIK	GGYSQPSWNV	WYLXFNIGQF	PPSGGTNPL	PLPFQYYRIR		100
circopordfp[	51	SREFVLTIR	GGISQPSWNV	WELRFNIGOF	PPSGGTNPL	PLPFQYYRIR		100
circopormank	101	KAKYEFYPRO	PITSNERGVG	STVVILDANF	VTPSTNLAYD	PYINYSSRHT		150
circopormeeh	101	KAKYEFYPRD	PITSNQRGVG	STVVILDANF	VTPSTNLAYD	PYINYSSRHT		150
circopordfp[	101	KAKYEFYPRD	PITSNQRGVG	STVVILDANE	VTPSTNLAYD	PYINYSSRHT		150
circopormank	151	IRQPFTYHSR	YFTPKEPELDQ	TIDWFHPPNNK	RNQLWLHLNT	HTNVEHTGLG		200
circopormeeh	151	IRQPFTYHSR	YFTPKEPELDQ	TIDWFHPPNNK	RNQLWLHLNT	HTNVEHTGLG		200
circopordfp[	151	IRQPFTYHSR	YFTPKEPELDQ	TIDWFHPPNNK	RNQLWLHLNT	HTNVEHTGLG		200
circopormank	201	YALQNAATAQ	NYVVRLTIYV	QFREFILKDP	LNK	.....		250
circopormeeh	201	YALQNAATAQ	NYVVRLTIYV	QFREFILKDP	LNK	.....		250
circopordfp[	201	YALQNAATAQ	NYVVRLTIYV	QFREFILKDP	LNE	.....		250

FIGURE 9

circopormank	1	MISIPPLIST	RLPVGVARLS	KITGPLALPT	TGRAHYDVYS	CLPITLLHLP		50
circopormeeh	1	MISIPPLIST	RLPVGVPRLS	KITGPLALPT	TGRAHYDVYS	CLPITLLHLP		50
circopordfp[	1	MISIPPLIST	RLPVGVPRLS	KITGPLALPT	TGRAHYDVYS	CLPITLLHLP		50
circopormank	51	AHFQKFSQPA	EISHIRYREL	GYSHQRPRL	QKGTHSSRQV	AALPLVPRSS		100
circopormeeh	51	AHFQKFSQPA	EISHIRYREL	GYSHQRPRL	QKGTHSSRQV	AALPLVPRSS		100
circopordfp[	51	AHFQKFSQPA	EISHIRYRKL	GYSHORPRL	QKGTHSSRQV	AALPLVPRSS		100
circopormank	101	TLDKYVAFFT	AVFFILLVGS	FRFLDVAAGT	KIPLHLVKSL	LLSKISKPLE		150
circopormeeh	101	TLDKYVAFFT	AVFFILLVGS	FRFLDVAAGT	KIPLHLVKSL	LLSKISKPLE		150
circopordfp[	101	TLDKYVAFFT	AVFFILLVGS	FRFLDVAAGT	KIPLHLVKSL	LLSKISKPLE		150
circopormank	151	VRSSTLQFTF	LSANKIICKKG	DWKLPYFVFL	LLGRIIKGEH	PPLMGLRAAF		200
circopormeeh	151	VRSSTLQFTF	LSANKIICKKG	DWKLPYFVFL	LLGRIIKGEH	PPLMGLRAAF		200
circopordfp[	151	VRSSTLQFTF	ATNIKIIKKKG	DWKLPYFVFL	LLGRIIKGEH	PPLMGLRAAF		200
circopormank	201	LAWHFH-		250
circopormeeh	201	LAWHFH-		250
circopordfp[201	LAWHFH-		250

FIGURE 10

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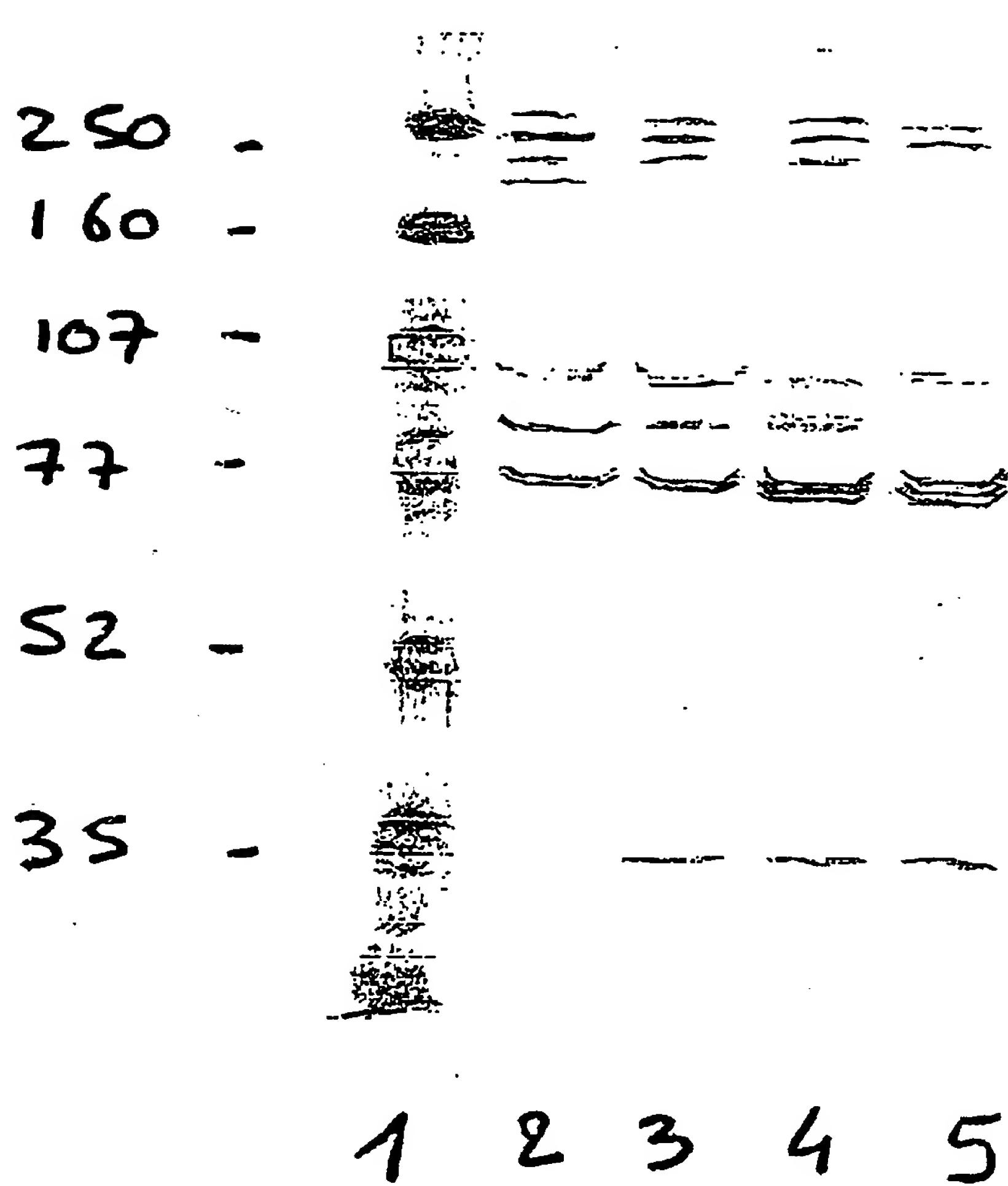


FIGURE 11